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MASTER OF MILITARY STUDIES

TITLE:

DoD capability benefits from preserving the Civil Reserve Air Fleet (CRAF)

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

AUTHOR:

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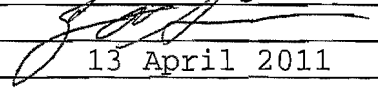
Approved: 
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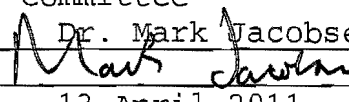
Approved: 
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Executive Summary

Title: DOD capability benefits from preserving the Civil Reserve Air Fleet (CRAF)

Author: Major Constantine E. Tsoukatos

Thesis: Is the Civil Reserve Air Fleet (CRAF) still a viable airlift method for the DoD during times of war and national emergencies?

Discussion: Through examination of historical documents, it will provide background to see how and why the CRAF was formed. Next, by exploring current national and DoD strategy and policies, and USAF doctrine, will offer insight into how the CRAF is integrated into our national military strategy, and then attempt to determine how valuable the CRAF is in today's environment.

Conclusion: The Civil Reserve Air Fleet provides a mission-ready capability which the DoD can rapidly call upon to provide airlift for any contingency in the world. In both instances of its activation, the CRAF successfully airlifted the majority of military troops and a significant amount of cargo, allowing the DoD to maximize strategic airlift to meet mission needs. The CRAF continues to be a viable airlift method for the DoD.

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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Preface

I propose to study the value of the Civil Reserve Air Fleet (CRAF) to the success of the Department of Defense's strategy for supplemental airlift during periods of war or national emergencies. The study will give a historical overview of the logic behind the CRAF's genesis. By examining the foundation of the CRAF, I intend to show how the evolution of the program has enabled the DoD to meet its mission needs. Next, I will examine the DoD's strategy in the post-9/11 environment to see the role strategic airlift plays. In addition, I will examine the USAF's strategy and doctrine as it pertains to airlift. Finally, I will examine if the CRAF is still as relevant or cost effective today, under our national strategy and military doctrine.

Acknowledgements

I would like to thank my mentor, Dr. Swanson, for his assistance in preparing this paper. I would also like to thank my wife, Jazmin, for motivating to keep going and not give up.

Strategic airlift is a hallmark of the United States military's post World War II legacy. The ability to use airpower to provide transportation anywhere in the world in a relatively quick manner provides a capability no other nation currently possesses. Strategic airlift allows the U.S. military freedom of movement for military action, humanitarian relief, and a host of other operations. Airlift has become a cornerstone of the U.S. military's capabilities. Specifically, one of the six distinctive capabilities of the United States Air Force is Rapid Global Mobility. Rapid Global Mobility is achieved by strategic airlift. Because of the importance of airlift, the DoD places a considerable emphasis on maintaining an organic ability to provide part of it. However, a significant piece of this capability is the responsibility of our nation's civilian airline carriers.

The civilian industry has allied with the U.S. government to ensure a ready reserve of aircraft and aircrews vital to securing national objectives. For over 60 years, the Civil Reserve Air Fleet (CRAF) has provided the Department of Defense (DoD) with a unique partnership, which enhances the ability of the U.S. military to transport its forces and personnel around the globe. The CRAF is still a viable airlift method for the DoD to use during times of war and national emergencies.

CRAF beginnings

As the military was drawing down following World War II, one aspect of the drawdown was the nation's airlift capability. The Air Transport Command (ATC) was facing an approximate 83 percent reduction in aircraft from September of 1945 to July of 1946.[1] Knowing that the financial burden of maintaining a large organic fleet was economically impractical, the commander of the ATC at the time, Maj Gen Robert W. Harper, proposed that calling upon civilian airlines would be a much more cost-effective way to increase airlift, especially cargo airlift, during periods of government need.[2] The thought of using civilian carriers was a quick way to ensure adequate lift existed. Especially if the military was facing such a large reduction in the number of aircraft it would maintain organically.

Unfortunately at this time, even with ATC in existence, there was no unification of inter-theater airlift, which left who would be in control in question.[3] The Departments of the Army and Navy were both flying aircraft (the Air Force was part of the Army at the time, the U.S. Army Air Force from 1941-1947). In fact, the Navy still had their own air transport service. It was not until 1947, that President Harry S. Truman signed by executive order that the Air Force would be responsible for airlift. The same day that the National Security Act of 1947 created the National Military Establishment

containing the Departments of the Air Force, Army, and Navy, underneath the Secretary of Defense.[4] This Act organized the services into how they are recognized today under a single Department with clear a clear command structure.

The new organization that would oversee all military airlift eventually came to be called the Military Air Transport Service (MATS). The Secretary of Defense ordered the creation of MATS to start in June 1948, and he placed Maj Gen Laurence Kuter in command.[5] Several weeks later, the Berlin Airlift began, and airlift's capabilities would be put to the test and proven over the course of just over one year. The Berlin Airlift successfully transported a total of 2,323,067 tons into Berlin, at that time the highest air cargo transport rates in history.[6] The Airlift, formally known as Operation VITTLES, demonstrated how strategic airlift could enable the United States to succeed in not just combat support but in other types of operations, like the humanitarian effort in Berlin.

Although successful, the Berlin Airlift required a build-up of transport planes over the course of the operation. The military simply did not have enough transport aircraft immediately available to provide for all cargo requirements. Initially, the U.S. had only 102 C-47s aircraft available for the airlift,[7] eventually increasing to 52 C-54's and 80 C-47's, with an additional request for 75 more C-47s.[8] The U.S. military

did not have adequate air transport immediately available, so they had to request increases in both quantity and quality of aircraft.

Against the backdrop of the success of the Berlin Airlift, General Kuter would make his argument for strategic airlift. He emphasized the value of strategic airlift, "which he defined as the 'sustained mass movement by air of personnel and materiel to any part of the world in support of a military effort, in conformity with overall strategic requirements of that effort, and supervised by the highest echelon of command concerned.'"[9] This statement captures the essence of strategic airlift in how it truly is a global venture, and is under national direction.

Furthermore, he acknowledged that the Air Force would be unable to maintain such a large fleet that would be required in a total war during peacetime--he suggested that civilian airlines be considered part of the equation.[10] The timing was right, and on February 28, 1951, President Truman issued Executive Order 10219, which allowed for the "transfer or assignment of aircraft from civil air carriers to the Department of Defense, when required to meet needs of the armed forces"[11]--the CRAF was officially born.

CRAF Composition and Operation

Since its inception, the CRAF was designed to augment the capabilities of military airlift in various roles. The CRAF consists of three main parts, international (sub-divided into long- and short-range), national (sub-divided into domestic and Alaskan sectors), and aeromedical evacuation.[12] "The long-range international section consists of passenger and cargo aircraft capable of transoceanic operations."[13] Aircraft belonging here are able to reach overseas with their payload. The short-range section consists of aircraft to support near offshore airlift needs.[14] Smaller aircraft are used in the short-range section. United States Pacific Command maintains responsibility for the Alaskan section. All aircraft in the domestic sector provide airlift assistance in the U.S. in the event of an emergency.[15] Aircraft assigned to the aeromedical evacuation division support the movement of casualties from operational areas back to hospitals in the United States.[16] Currently, as of October 2010, there are 1,164 commercial aircraft, from 35 various carriers assigned to the CRAF.[17] This number represents a sizeable fleet in reserve, greatly enhancing the ability of the United States to provide airlift anywhere in the world. A complete list of companies and their aircraft can be found in Appendix A, Table 1.

CRAF participants are under a contractual obligation to provide the Department of Defense aircraft and aircrews as needed to fulfill airlift requirements. In order for a commercial carrier to join the CRAF, 30 percent of its passenger-capable fleet and 15 percent of its cargo-capable fleet must be maintained as a minimum.[18] This minimum provides a baseline for planning purposes so the DoD can have a reasonable expectation of how much airlift is available for contingency response. Additionally, the aircraft must also be registered in the United States, and need to "commit and maintain at least four complete crews for each aircraft."[19] Having sufficient crews available ensures that if the airlines are activated, there will be no issues with crews ready to fly them. If a commercial carrier is unable to keep aircraft performance within the minimum CRAF requirements, they are issued a "certificate of technical ineligibility" which allows them to maintain their ability to compete for business with the government.[20]

CRAF Execution

The CRAF is activated and mobilized in three different stages: Stage I is for regional crises, Stage II is implemented for major theater war, and Stage III is used during periods of national mobilization.[21] The different stages allow CRAF assets to be tailored for specific contingencies at hand, and can be

incrementally activated on an as-needed basis.[22] The ability of the DoD to step through the stages, based on mission needs, provides a template for both the airlines and the DoD to plan and prepare for what might be expected. From Air Force Doctrine Document 2-6, each stage's formal description is as follows[23]:

> State I--Committed Expansion. Used for a minor regional contingency or other situation when AMC organic airlift resources cannot meet both deployment and other airlift requirements simultaneously.
>
> Stage II--Defense Airlift Emergency. Supports a single major theater war or other major contingency.
>
> Stage III--National Emergency. Used for multiple major theater wars or other national emergencies requiring mobilization of all DoD resources and utilizing the total CRAF airlift capability as required to support U.S. military forces worldwide.

In accordance with Air Mobility Command Instruction 10-402, the "Commander, U.S. Transportation Command, with the approval of the Secretary of Defense, can activate any of the three stages of the CRAF. CRAF aircraft resources may be used to the fullest capability during activation, up to the level allocated in the activated CRAF stage."[24] Even though all aircraft and crews may be used during each stage, the DoD may elect not to task every one of them. This tailoring ability provides flexibility in tasking the CRAF more efficiently.

Furthermore, having the CRAF activated in stages allows the Department of Defense the ability to receive civilian airlift on an as needed basis for a specific contingency.[25] This allows the civilian airlines a reasonable expectation of what they can expect when activated. When a civil partner is activated, they have between 24 to 48 hours to have their aircraft mission ready once assigned one by Air Mobility Command (AMC).[26] The short timeframe in which CRAF aircraft are expected to respond provides a significant force multiplier for the DoD to transport passengers and/or cargo. Though AMC has tasked the mission and controls it, the airline continues to operate and maintain their aircraft with their own resources.[27] The aircraft do not belong to the DoD, but are working for the DoD which executes mission control.

Since civilian carriers will be fulfilling taskings from the Department of Defense, flight safety becomes a point of interest for the DoD:

> Safety is the paramount concern, and numerous procedures are in effect to ensure that the air carriers with which AMC contracts afford the highest level of safety to DoD passengers. Prior to receiving a contract, all carriers must demonstrate that they have provided substantially equivalent and comparable commercial service for one year before submitting their offer to fly for the Defense Department. All carriers must be fully certified Federal Aviation Administration carriers and meet the stringent standards of Federal Aviation Regulations pertaining to commercial airlines (Part 121).[28]

The DoD will conduct inspections on the civilian carrier's operation to ensure compliance with DoD safety parameters. Even though the civilian agencies follow Federal Aviation Agency rules and regulations, the DoD expects that if civilian carriers are transporting DoD personnel or equipment that they are screened by DoD personnel. A survey team made up of both AMC pilots and maintainers perform inspections of the aircraft, crew qualifications, training, maintaining practices, quality assurance, and financial status in order to ensure the carrier would be able to safely execute the DoD's missions.[29] Following this survey, the carrier is approved by the DoD and certified by the Commercial Airlift Review Board prior to being issued a contract.[30]

Once an airline receives a contract, AMC will continue to monitor the airline, ensuring the safety record, fiscal health, operational and maintenance status, and contract performance are reviewed bi-annually.[31]

The government offers incentives to carriers that commit their crews and aircraft to join the program. Peacetime airlift business is made available to CRAF-participating carriers.[32] In this way, the civilian airlines have a regular flow of customers during peacetime, providing them an additional revenue source to help keep them as CRAF members. Also, the Department of Defense offers business to the airlines through the International

Airlift Services Contract, which can provide additional funding: in fiscal year 2007, the guaranteed portion of the contract was $379 million, and an estimated $2.1 billion in additional business.[33] The additional business provides even more incentive for the carriers who contract to be members of the CRAF, ensuring consistent revenue for those airlines.

CRAF Activation

CRAF carriers have voluntarily helped support Department of Defense missions over the years, but the CRAF has only formally been activated twice. CRAF aircraft have participated in numerous wars, conflicts, and operations over the course of its 50+ years of existence. Volunteerism had historically aided the DoD throughout many instances. In fact, "during the first week of Operation DESERT SHIELD, MAC [Mobility Air Command] tried to meet the growing gap in airlift capability by asking CRAF to volunteer aircraft and crews for military missions to the Gulf in the hopes of avoiding an activation of the CRAF."[34]

Some carriers did volunteer, but it would not be enough to preclude the necessity of formal activation. So for the first time in its existence, the CRAF was activated was during Operation DESERT SHIELD. On 16 Aug 1990, the Commander-in-Chief of U.S. TRANSCOM activated CRAF Stage I.[35] The activation gave

the DoD the necessary airlift to prepare for operations in the Persian Gulf.

The price paid to the carriers at this time was the same as for peacetime missions, but in November of that year, an annual rate increase took effect which allowed for increased fares.[36] Airlines were also allowed to book commercial flights on the return trip if there was no military need.[37] By allowing airlines to book commercially on the return trip, the companies had a better chance of generating revenue, one way or another. Additionally, MAC had a policy in which it would compensate an airline if costs exceeded one cent of a standard rate, and conversely would ask for repayment if the rate dropped this practice helped protect the airlines from inflation.[38]

Not all CRAF missions were in direct support of Operation DESERT SHIELD missions. Some of the standard flights in the Pacific were flown by CRAF aircraft to allow MAC assets to be used elsewhere.[39] This flexibility allowed the DoD to better manage military aircraft into areas where civilian airliners were not as apt to go. Civilian aircraft are not equipped to operate in certain hostile environments or land on certain types of airfields. The ability for military aircraft to perform in this manner was directly enabled by the use of CRAF aircraft for routine airlift missions.

The first official activation of the CRAF in 1990 provided the Department of Defense with additional airlift to support its wartime need. Though the program was always touted as being able to provide additional airlift, it was Operation DESERT SHIELD which proved how effective it could be.[40] As seen in Table 2, Appendix A, CRAF aircraft flew 963 missions supporting the U.S. deployment--55 percent cargo missions, and 45 percent passenger flights.[41] Several program characteristics contributed to the CRAF's success in 1990. Of note, is that the commercial insurance for flights into the Area of Responsibility increased four-fold during this time.[42] Since the commercial aircraft were now flying into the military's Area of Responsibility, their insurance rates were increased due to higher potential for risk. However, activation allowed the government to "underwrite war risk insurance," which some carriers found beneficial in working with their unions, and off-setting costs.[43] Formal activation also allowed the CRAF workload to be distributed across all participants, which helped alleviate fears that the airlines would lose pieces of the commercial market share while they were flying Operation DESERT SHIELD missions.[44] By tasking each CRAF member to support the missions, no one carrier would maintain an advantage in the commercial side.

Subsequently, as operations transitioned from Operation DESERT SHIELD to Operation DESERT STORM, CRAF carriers continued

to prove their value to the Department of Defense. CRAF carriers flew over 5,000 missions between both operations.[45] "Those missions accounted for more than 60 percent of passengers and 27 percent of air cargo in deployment and 84 percent of passengers and 40 percent of cargo in redeployment."[46] The majority of personnel were transported by CRAF aircraft, demonstrating how valuable the partnership was in the successful execution of the DoD's mission in the Gulf.

The second activation of the CRAF occurred after the attacks of September 11th, when CRAF carriers were again called upon to support Operation IRAQI FREEDOM. On February 8th, 2003, the Department of Defense released a message announcing the activation. The Secretary of Defense delegated the authority to the USTRANSCOM commander to activate Stage I of the CRAF.[47] "The authority to activate CRAF Stage I involves 22 U.S. airline companies and their 78 commercial aircraft - 47 passenger aircraft and 31 wide-body cargo aircraft."[48] The CRAF was activated for approximately four months. During this period, there were 11 CRAF carriers who flew 51 passenger aircraft, and airlifted over 250,000 troops on 1,625 missions.[49] Again, the burden of moving one-quarter of a million troops was borne by CRAF carriers, freeing military aircraft for other uses.

The CRAF program has also aided the DoD several times on a voluntarily basis. During the Korean War, the CRAF transported

67 percent of all DoD passengers and 56 percent of all cargo.[50] Additionally, during the Vietnam War, CRAF aircraft volunteered again, and transported in excess of 11 million troops and over one million tons of cargo.[51] Even though the CRAF was not activated, the vast lift supplied by it during these wars alleviated that burden from military transports.

Though informally tested many times during its existence, the success of CRAF carriers to support DoD operations was formally tested 40 years after its creation. However, the thoughts behind how to employ the program were examined before it was activated. The basic concepts for the CRAF were begun in airlift doctrine during its early years.

Doctrine

The United States Air Force (USAF) began looking at creating doctrine governing airlift in the early 1950s. Air University would begin preparing doctrine manuals and Headquarters USAF would review them, as headquarters was the focal point for DoD policy integration and inter-service relations.[52] Air University drafted a basic doctrine manual, and subsequently was planning work on four expansion manuals, one of which was going to focus on air transport operations.[53] The significance of airlift was valued enough to be included in the discussions on doctrine, but not to as great an extent as other

airpower fields. Thus early doctrine did not allocate a great deal of resources to military air transport.[54] Yet an important foundation was laid in the early doctrine in which the global airlift system (to include how civilian airlines could contribute) was acknowledged and identified as a vital element for the United States military.[55] The foundation for ensuring civilian/military cooperation regarding airlift has paid significant dividends decades later with the success of both CRAF activations.

At that time, debates began as to what size the military air transport network should be. As the civilian industry gained headway in the commercial air transport business, concern shifted towards a shrinking of the military's organic airlift during peacetime, which would decline its wartime capability.[56] "Air power does include a strong industrial base and it does include the civil air sector, but it is founded first on a military baseline. It is only after that military baseline is defined, articulated, and secured that air power doctrine should address itself to the military applications of civilian airlines and the like."[57] For the next several decades, debates would occur between what roles military and civilian aviation would play in the nation's defense. Eventually, President Ronald Reagan reaffirmed this belief that a strong commercial air industry was vital for the nation in his 1987 National Security

Decision Directive 280, where he acknowledged "the interdependence of military and civilian airlift capabilities in meeting wartime airlift requirements."[58] This idea of the interdependence of military and civilian airlift caused a need for a sound airlift strategy which integrated both.

Strategy

Now more than ever, the DoD's reliance on the CRAF is vital to the nation's ability to provide air transport. The 2010 Quadrennial Defense Report articulates that the DoD is proposing to conclude production of the C-17.[59] With the newest strategic airlifter's production end in sight, and an aging C-5 fleet, the DoD will need to rely on the capabilities available from the CRAF carriers. There are no new plans for next generation strategic airlift assets for the DoD at this time.

The DoD will continue to have a need for adequate airlift. This becomes more important as it is realized how much the nation's strategy continues to place a heavy emphasis on the ability to respond to any contingency on a global scale. The most current National Military Strategy states that "overlapping major combat operations places major demands on strategic mobility."[60] Mobility includes airlift, and is the fastest mode of transport for the DoD to respond to any conflict or other operation.

Furthermore, the first goal of the Logistics Strategic Plan is to "provide Logistics support in accordance with warfighters' requirements"--a key initiative to make this happen is to "ensure the viability of the Civil Reserve Air Fleet".[61] The CRAF is able to transport both troops and cargo, providing an additional resource for logistics planners to support national objectives.

In an era of shrinking budgets, the DoD's ability to sustain the size air transport force needed would not be feasible. General Duncan McNabb, Commander of USTRANSCOM at the time, testified before Congress that the CRAF's value to the nation is unrivaled.[62] The cost benefit is tremendous: "replacing the CRAF capability with military aircraft would have cost DoD between $1 billion to #3 billion annually. That cumulative cost avoidance in 2009 dollars is between $43 billion to $128 billion dollars...comparable to purchasing another 180 to 530 C-17s beyond the 205 currently programmed."[63]

The dollar amounts are based on the actual *capability* used by the DoD for transport. If one takes into account the number of airframes available under the CRAF, the amount it would cost the DoD to purchase the airlift ability of 1,164 aircraft would be far greater. Gen McNabb's high-end number of 530 listed above would only cover the International Long-Range passenger aircraft. There are still 234 cargo aircraft in the same

category, plus an additional 324 in the International Short-Range passenger and cargo category.[64] To purchase that number of C-17s would entail an additional price tag of $112.8 billion, based on one C-17 costing $202.3 million.[65] Rounding out the last of the CRAF aircraft available in the Domestic and Aeromedical sections includes an additional 79 aircraft.[66] The grand total would rise to $235.4 billion, just in procurement costs, not including sustainment for those aircraft, or providing for aircrews to fly them. With the DoD's proposed budget for 2011 given at $548.9 billion, spending 42.8 percent of it on C-17s would be fiscally imprudent, since the same document effectively ends or reduces several programs, "including the C-17 aircraft." [67]

There are other benefits aside from procurement and sustainment costs. Since CRAF members have to provide their own aircrews, the DoD saves on recruiting, training, and retention costs, as well as salary and benefits for those aircrews. Maintaining a trained, qualified crew remains the responsibility of the civilian airline. The DoD will only ensure aircrew qualifications are valid to provide safe mission accomplishment.

Another less tangible benefit is the availability of organic military aircraft to perform distinctly military operations. For example, a C-17 that is not being used to ferry troops and equipment from the continental United States to a

theater of operations would be available to perform a tactical airdrop in a high threat area somewhere in a combat theater. Since commercial aviation can and does transport troops and equipment on routine missions, military aircraft have the latitude to execute missions for which those aircraft were primarily designed.

As the past two decades have demonstrated, when needed, the Civil Reserve Air Fleet has been able to provide the required airlift to transport the vast majority of military troops and a significant portion of cargo to execute the nation's missions. In keeping with its historical track record of performance, the CRAF complements the DoD in executing the nation's strategy in accordance with military doctrine. The CRAF enables DoD mission success by providing strategic airlift on an as-needed basis. Rather than procuring and sustaining a large organic fleet, the DoD maintains the ability to rapidly call up a fleet of aircraft at a smaller cost. The DoD saves money by not maintaining these additional aircraft and the aircrews and support personnel they require. Especially since the DoD's tightening of the purse strings, each Service's ability to procure additional or new airlift assets in adequate numbers is not feasible. having civilian aircraft ready to execute DoD missions within hours or days, at reduced cost gives the U.S. unmatched strategic airlift reserves. Its proven track record validates the need for

maintaining the CRAF, and the program is still a viable capability for the DoD.

Appendix A

Table 1. Civil Reserve Air Fleet Monthly Allocations
(taken from the Office of the Secretary of Transportation Website)

October

OFFICE OF INTELLIGENCE, SECURITY, AND EMERGENCY RESPONSE
CIVIL RESERVE AIR FLEET (CRAF) MONTHLY ALLOCATIONS

Enclosure 1

INTERNATIONAL LONG-RANGE PASSENGER (ILP)

ILP Segment	AAL	AMT	COA	DAL	HAL	NAO	NWA	OAE	RYN	UAL	USA	WOA	TOTAL
A-300 Series											2		2
A-330 Series				32							14		46
DC-10-30								7				3	10
B-747-200													0
B-747-400				16						25			41
B-757 Series	31		41	27		4		2	3		15		123
B-767-200ER			10					1	0				11
B-767-300 Series	58		10	23	6	5		3	4	21			130
B-767-400			6	21									27
B-777-200	47		20	18						46			131
L1011 Series													0
MD-11												6	6
TOTAL	136	0	87	137	6	9	0	13	7	92	31	9	527

INTERNATIONAL SHORT-RANGE PASSENGER (ISP)

ISP Segment	AAL	ASA	AMT	BSK	CCP	CMI	COA	DAL	GWY	HAL	JBU	NWA	RYN	SCX	SWG	SWI	UAL
A-300 Series																	
A-320-200									5		39						
B-727-200/B																	
B-737 Series		36		8		3	40							4			
B-757-200	93							64									
B-757-300								16									
B-767-300 Series																	
MD-80 Series	12																
TOTAL	105	36	0	8	0	3	40	80	5	0	39	0	0	4	0	0	0

INTERNATIONAL SHORT-RANGE CARGO (ISC)

ISC Segment	ABX	DHL	EIA	LYC	NAC	TDX	XNA	TOTAL
A-300-B4F		0				0		0
B-727-100F								0
B-727-200F		0						0
B-737-200					3			3
B767-200	0							0
DC-8-63	0							0
DC-9-33F								0
L-100-30				1				1
TOTAL	0	0	0	1	3	0	0	4

INTERNATIONAL LONG-RANGE CARGO (ILC)

ILC Segment	ABX	APW	ATN	CKS	DAL	DHL	EIA	FDX	GCO	GTI	MUA	NWA	PAC	SOO	TDX	UPS	WOA	TOTAL
DC-8-62 CB			6															6
DC-8-63 F											2							2
DC-8-70F Series			4			8					1							13
DC-10-10C/F																		0
DC-10-30F								9									0	9
DC-10-40F		0																0
B-747-100F				4			1											5
B-747-200F				11			9			5			0	14				39
B-747-300F										1				2				3
B-747-400F				5			1			13			6			10		35
B-767-200SF	10																	10
B-767-300																12		12
B-767-400ER																	2	2
L-1011-200F																		0
MD-10/11F-CF								67							3	20	8	98
TOTAL	10	0	10	20	0	8	11	76	0	19	3	0	6	16	3	42	10	234

NATIONAL-DOMESTIC (DOM)

DOM Segment	AAY	FFT	SWA	TRS	TOTAL
A-319-100		0			0
A-320-200					0
B-737-300			30		30
B-737-700				3	3
B-757-200					0
DC-9-83	1				
MD-80 Series	2				2
TOTAL	3	0	30	3	36

NATIONAL-ALASKA (AAC)

AAC Segment	LYC	NAC	NEC	TOTAL
DC-6 Series			2	2
L-100-30	2			2
TOTAL	2	0	2	4

AEROMEDICAL (AERO)

AERO Segment	AAL	DAL	UAL	USA	TOTAL
B-767-200ER			1	5	6
B-767-300DR	33				33
B-767-300ER		0			0
TOTAL	33	0	1	5	39

CARRIER LEGEND

AAL - AMERICAN AIRLINES	COA - CONTINENTAL	JBU - JET BLUE	SCX - SUNCOUNTRY AIRLINES
AAY - ALLEGIANT AIR	DAL - DELTA AIRLINES	LYC - LYNDEN AIR CARGO	SOO - SOUTHERN AIR
ABX - ABX AIR	DHL - ASTAR AIR CARGO	NCR-MURRAY AIR	SWA - SOUTHWEST
APW - ARROW AIR	EIA - EVERGREEN	NAC - NORTHERN AIR CARCO	TRS - AIRTRAN AIRWAYS
ASA - ALASKA AIRLINES	FDX - FEDERAL EXPRESS	NOA - NORTH AMERICAN AIRLINES	TDX - TRADEWINDS AIRLINES
ATN - AIR TRANSPORT INTL	FFT - FRONTIER AIRLINES**	NEC TATONDUK OUTFITTERS, LTD	UAL - UNITED AIRLINES
BSK - MIAMI AIR INTL	GTI - ATLAS AIR	OAE-OMNI AIR INTERNATIONAL	UPS - UNITED PARCEL
CKS - KALITTA AIR	GWY - BRENDAND AIRWAYS, LLC	PAC - POLAR AIR CARGO	USA - U.S. AIRWAYS
CMI - CONTINENTAL MICRONESIA	HAL - HAWAIIAN AIRLINES	RYN - RYAN INTL AIRLINES	WOA - WORLD

NEW CARRIER in BOLD **= CARRIER DROPPED OUT

U.S. DOT, Office of the Secretary of Transportation

SUMMARY

	Past Mo. July	Change	Current Mo. Oct
ILP	529	-2	527
ILC	234		234
ISP	320		320
ISC	9	-5	4
DOM	36		36
ACC	4		4
AERO	39		39
TOT	1171	-7	1164

Table 2. Civil Airline Participation in Desert Shield and Storm (taken from Miller, 42).

	# of Aircraft[a]		Passengers			Cargo			
Airline	Passenger	Cargo	ODS	Channel[b]	Total	ODS	Channel	Total	Total Missions
Northwest Airlines	3	2	75		75	24	12	36	111
Federal Express		8	4		4	9	86	95	99
American International		1				57	31	88	88
Evergreen		2				21	50	71	71
American Trans Air	1		70		70				70
Pan American Airlines	3		56		56				56
World Airways		1	30		30	18	4	22	52
Southern Air Transport		1				35	16	51	51
Rosenbalm Aviation[c]		4				34	16	50	50
Hawaiian Airlines			30	17	47				47
Air Trans International		1		1	1	24	20	44	45
Tower Air	1		37		37	1		1	38
United Parcel Services		2				15	20	35	35
American Airlines	2		30		30				30
United Parcel Services	4		27		27				27
Trans World Airlines	2		23		23				23
Korean Airlines						2	14	16	16
China Airlines	2		10		10				10
Servico Acorina de Transportes Aereos						2	8	10	10
Florida West							8	8	8
Eastern Airlines			7		7				7
Sun Country			6		6				6
Delta Airlines			5		5				5
Buffalo Airways						4		4	4
Trans Continental			3		3				3
Kuwaiti Airlines						1		1	1
Total	18	22			431			532	963

SOURCE: *PAF Assessment.*

[a]From July 1990 CRAF Capability Summary, Form 312.

[b]MAC commitments other than ODS.

[c]No longer in service.

Endnotes

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[35] Winnefeld, 40.
[36] Winnefeld, 41.
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[40] Winnefeld, 41.
[41] Winnefeld, 41.

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[46] McNabb, 2.
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[56] Miller, 250
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